Manning Diversified Forest Products
Research Trust Fund
MDFP 3/98

Envirothon 1999

1999 – Final Report

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Grande Prairie, Alberta
Canada

Pub # CP003

DISCLAIMER

The event on which this report is based was funded in part by the Manning Diversified Forest Products Research Trust Fund, which is a component of the Government of Alberta's Environmental Protection and Enhancement Fund. The views, statements and conclusions expressed and the recommendations made in this report are entirely those of the author (Val Martineau) and should not be construed as the statements, conclusions, or opinions of members of the Manning Diversified Forest Products Research Advisory Council.

100-04039/

ABSTRACT

The second annual Envirothon Alberta was successfully hosted in Grande Prairie on Wednesday October 27, 1999. Three teams took part in the event showing their skills in four areas of the environment - Soils, Aquatics, Wildlife and Forestry. The teams competed with lot's of enthusiasm, great preparation and incredible determination. All three teams completed positive evaluations on the event and the schools involved as well as the judges have all voiced an interest in being part of future Envirothon Alberta competitions.

The competition was split into eco-stations, and a simulation presentation. There were three eco-stations judged during the competition. Teams spent 20 minutes at each test-site going through 'hands-on' testing, performing a proper scientific water lab and making conclusions from their results. Teams were also expected to discuss environmental problems and solutions to the judges.

After a break we drew for the order of teams to present the simulation presentation. Teams were given a simulation 6 days in advance. They were to be in charge of a National Park in the Boreal Forest. They had to create a management plan that would satisfy many users of the park, allow them to make enough money to keep the park running and to keep the parks environmental objectives in mind. Students presented their work in colourful, dramatic presentations. One team took the approach of a town council having to make decisions. Another team created a web site, walking tours and educational adventures for their park while the third team took on characteristics of the wind, sun, land etc. and how each would be affected in the park.

The organizing committee of Envirothon Alberta was thrilled with the effort and enthusiasm put forward by all participants. We hope this event will continue to grow and prosper in our province.

Acknowledgments

The Envirothon Alberta Organizing Committee would like to graciously thank the following sponsors for their participation, their generous contributions, and their help and encouragement that made Envirothon Alberta 1999 such a success.

Manning Diversified for its $2,000.00 grant through the MDFP Research Trust Fund.

The following companies fund the education division of the Grande Prairie Forest Capital of Canada Society. It is this society that hosted Envirothon Alberta 1999. It is also the education division of FCOCS that donated more than $2,000.00 for this event (including gift in kind such as Val's salary to run the event).

Ainsworth Lumber Inc. **Alberta Forest Products Association**
Canadian Forest Products Ltd. **Weyerhaeuser Canada Ltd.**

Along with financial contributions **Ainsworth, Canfor and Weyerhaeuser** also donated gifts in kind including water bottles, certificates and pins to all participants.

All three companies generously donated employee time. **Ainsworth's Tom Brewer** created an information booklet on woodlot management for the study guide. We chose to focus the forestry section on forest fires this year as it was very topical. We thank Tom for his contribution and hope to use his information and planned field study in next year's event.

Canfor provided Chris Kreibom Quinn as a part of the organizing committee. Chris provided constant input during the organization of Envirothon.

Maria Lopez of Canfor created participation certificates for each student, each judge and each presenter.

Weyerhaeuser employees Guy Wilson, Ray Connery, Stacey Williams, Ken Taylor, and David Lincoln gave the students a tour of Weyerhaeuser's lagoon and water treatment area. We had to do this tour twice to fit in the time schedule for the team from Worsley. Guy Wilson also helped create the written material for the water field guide.

Alberta Environment's Andrea Barnes was the co-chairperson of Envirothon Alberta 1999. Andrea is the Visitors Information Officer at Saskatoon Island Provincial Park. Andrea arranged several field studies, got judges for specific areas and assisted those judges in writing up their portion of the written tests as well as the field study guides. Andrea was also a presenter and judge for the Wildlife segment that focused on ungulates. Andrea and Adam James joined me in writing up the simulation for the event. Andrea and I met on several occasions to work through the logistics of Envirothon 1999.

Alberta Environment Natural Resource Service's Adam James was a presenter and judge for the wildlife portion of this event. Adam is a wildlife biologist for Natural Resource Services. Adam and Andrea provided a magnificent field trip involving types of monitoring of ungulates. They hid a caribou collar in the bush and using the techniques learned, students had to find the caribou. Adam helped create the written test for Wildlife. He also worked on the simulation. Adam also provided input on forest fire management.

Alberta Environment's Information Officer in Peace River Norman Brownlee was a huge help with Envirothon Alberta. Norm provided constant input and suggestions and encouragement for the event.

Lands and Forest Service's Bob Yates assisted with the written portion of the forest fire guide for the forestry section.

Agricore's Mike Mueller was a judge and presenter for Envirothon 1999. Mike hosted a fun field trip for the teams comparing different qualities of soil on farm land. Students had to do soil tests and get them sent in for analysis. Students had to come up with conclusions on how to best prevent erosion, loss of nutrients and where to best grow the crops. Mike also helped write the soil test and portions of the soils study guide.

Thanks to our judges who volunteered for Envirothon Alberta.

Soils - **Mike Mueller** - Agricore was a judge for the soils eco-station and for the simulation

Water - **Susanne Kuechle** - Peace Country Science and Technology Hotline Coordinator Susanne has her Ph D in Genetics and was the judge for the water station as well as the simulation. Susanne created the water eco-station test site for us based on the field studies, the written information the students were given and general science laboratory expectations for science 20 and 30 students.

Wildlife -**Andrea Barnes** - Visitors Information Officer Saskatoon Island Provincial Park Northwest Boreal Region
Adam James - Alberta Environment's Natural Resource Services
Adam and Andrea were judges for the Wildlife eco-station as well as the simulation.

Forestry -The forestry component was the major focus of the simulation. All of the above judges were judges for the forestry component.

Other Contributors included:

Grande Prairie Regional College Science Department - Audrey Wells and Rick Scott provided us with the equipment necessary to run the lab at the soils eco-station.
Grande Prairie's Water Sewage Treatment Plant - Lynne Coulter provided us with the various water samples for the water eco-station for test day.
St Joseph Catholic High School - for hosting the final competition and allowing us to use three classrooms for the eco-stations, the library for the presentations and the lounge for dinner.

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Introduction

Project Objectives for Envirothon Alberta:

Envirothon Alberta is a high school science environmental education program. The Forest Capital of Canada Society - Education Division hosted the second annual Envirothon Alberta Wednesday October 27th, 1999 in Grande Prairie, Alberta. Three high schools teams competed (St Joseph Catholic High School- The Planateers, St Joseph Catholic High School - The Enviro Radicals and Worsley Central School). The teams were made up of five students/ team. Students spent six weeks studying wildlife, forestry, soils and water as well as local environmental issues. They went on several field trips relating to each section.

Envirothon is North America's largest high school environmental competition with teams from more than 40 states and 4 provinces competing. It combines in-class curriculum from the Biology 20 curriculum with hands-on field studies. Students are given a chance to demonstrate the role people have in important environmental issues such as forestry and wildlife management.

Envirothon Alberta offers high school students an opportunity to expand their environmental horizons, gain valuable experience, and perhaps consider a career in environmental studies or one of the disciplines offered in the event. Most importantly, it creates a great environment for students to learn while having a lot of fun.

This year the Forest Capital of Canada Society wanted to expand Envirothon to include schools in the entire Peace Country. We sent out invitations from Manning to Grande Prairie and followed them up with phone calls to the Biology 20 and/or 30 teachers. Many schools were interested but there was an unusually high turn over of staff during the summer. Three schools showed a great interest but the Biology teacher was a first year teacher and the school administration and/or teacher felt that it would be too much to take on for a first year teacher. Worsley was joined by two Grande Prairie teams. We accommodated Worsley by arranging all their field trips for one day. This allowed them to travel to Grande Prairie only twice (once for the field trips and once for the competition).

Hopefully next year we will have more schools in the North Peace taking part and I will work with Norm Brownlee on arranging field trips in the Peace River area as well as the Grande Prairie area. The F.C.O.C.S booth at this year's teachers convention will focus on Envirothon and its opportunities for top notch biology and chemistry students. Val Martineau will also contact all school principals in January of 2000. This is when schools begin planning for the following September. If Envirothon is planned as an extra-curricular activity then teachers can sign up for it before they leave on summer break. This should ensure a quick start and higher attendance at future Envirothon's.

We have now hosted Envirothon in the spring and fall. Teachers and students generally feel fall is a better time as May is very close to final exams, graduation ceremonies and sporting

commitments. A fall time frame also fits in best with Val's schedule.

This year all three teams were motivated by the chance of winning the event and qualifying for Nationals. It was strongly stressed that the F.C.O.C.S would not be able to fund a team to Nova Scotia. We are the only community in Alberta currently hosting Envirothon so our winning team has now become eligible to be the Alberta entry at Nationals in July. The team is making plans to raise funds for this event.

This is the first year the National Envirothon competition will be held in Canada, it is normally an American event. The Canadian Forestry Association is very keen to have all provinces represented at this event. I have informed Dan Cooligan of CFA that our winning team is interested in competing in Nova Scotia as long as they can raise sufficient funds. He was very pleased to hear this but unfortunately the C.F.A. has no funds to assist teams in making the trip.

The focus for the F.C.O.C.S. remains regional. Our goal is to have five or six teams from across the Peace Region compete in next year's event. The enthusiasm of this year's participants indicates how positive an experience Envirothon is for students. All 15 students have said they plan to spread the word and get more schools involved next year. We would like to have a solid regional competition before expanding. If other areas of the province are interested in hosting Envirothon competitions I could assist them with organizational matters but it would not be my role to organize the event outside of the Peace Region. I am excited about the possibility of Peace River, Grimshaw and Manning joining Envirothon Alberta in 2000.

It has been decided by the F.C.O.C.S committee that Val's role for the Nova Scotia Nationals would be minimal. Val is currently the Alberta contact for the National Committee. Val will be a resource for Alberta's winning team but there is no obligation on her part to go to the National event. If the winning team has some questions, they should phone Val, however, the committee does not feel it is up to Val to organize the team to study or prepare for the National event.

Envirothon Alberta Results, Conclusions and Recommendations

This is the second year the F.C.O.C.S has hosted Envirothon Alberta. It was still a big undertaking but much easier having a format and expectations in place than starting from scratch as we did in year one. We successfully hosted the second annual Envirothon in our province. Three school teams (15 students with the guidance of 3 teachers and a sponsor parent) competed in 3 eco-stations and a simulation that required students to combine their knowledge in all areas.

I approached schools in January 1999 about Envirothon Alberta for the spring of 99. I met with teachers from all the local high schools and phoned teachers at all other Peace Region High Schools. Three teams committed to the spring event with other teams considering it for next year. Due to extenuating circumstances two teams had to drop out of the competition. One sponsor teacher's father suffered a severe heart attack so she had to spend her extra time caring for him. Another sponsor teacher was promoted to Vice Principal in early spring and Acting Principal by late spring. He felt his workload of learning the new job and keeping up with his classes was too much.

I requested an extension to host Envirothon in the fall of 1999. Seven schools agreed they would be interested in this time line for the event. I received approval for the time change from the MDFP Trust Fund as well as the F.C.O.C.S education committee.

I then approached contact teachers in late August and early September for the fall event. As mentioned previously three of the seven schools had first year teachers this fall and declined to enter the event. A fourth school that had previously committed chose not to accept the invitation. Grande Prairie Composite High School had a team entered then after the first week 2 of the 5 students dropped out as they made the volleyball team and couldn't commit to both.

Two teams from St Joseph Catholic School and one team from Worsley Central entered the 1999 competition. Teams were set at 5 students/team to coincide with the National Envirothon rules.

Each presenter and judge put together study guides in their area of expertise (Forestry, Wildlife, Soils and Water). We found this more useful than simply general information as it focused on issues in the Peace Region. Some of the information was general ecology and biology. Each team was given a study guide and two video tapes. They were also given posters, work booklets and contact names to call when needed in efforts to help them prepare for the competition. I stayed in constant contact with the teams through their sponsor teachers and their team captains. I was pleased that team members felt comfortable phoning me at home to clarify specific points in the simulation while preparing for their presentation. Field trips ran once a week for four weeks. Worsley completed all their field trips on October 14th.

Field trips included:

Weyerhaeuser Lagoon and Water Treatment Site: (aquatics/forestry)

Guy Wilson arranged the field trip for us on both occasions. The teams were split into two groups. Ray Connery took one group through the water treatment portion of the mill. Students were able to do 3 water tests done in the lab. It was great! Other tour guides for this event were Stacey Williams, Ken Taylor and David Lincoln.

Guy Wilson took a group to the effluent/in fluent site on the river. We toured the lagoons and went to the pump station where we took samples of the treated water heading back into the river. Guy fielded a lot of tough questions with factual responses.

We also spent time learning about Weyerhaeuser's planned oxygen delignification upgrade. Students were very interested in this.

Saskatoon Island Provincial Park Ungulate Study: (wildlife)

2nd field trip was the same content but done at the Wapiti Nordic Ski Trails and Lodge:

Andrea Barnes went through a slide show and presentation going over the ungulates found in Alberta. Students focused on the groupings, characteristics and habits of all ungulates. Andrea had several antler, hoof and dropping samples from various ungulates. Students learned to identify and examine them for particular characteristics. Adam James went over survey sampling methods, what the choices are, what is used and why, the costs and results and how the results are used. He showed various types of collaring methods via slides and had a demonstration of collaring. He then hid a caribou (actually a stuffed animal caribou) in the forest with a collar on it. The students had to use telemetry to locate the animal. This proved to be a very fun and challenging for the teams.

Canola Farm Fields: (soils)

Mike Mueller provided the students with a fun afternoon of soil testing. Students learned about soil layers, what's needed for healthy soil, how farmers can decrease their chances of erosion and what crops to plant when. Students were put to work doing soil tests and summarizing the results. It was a chilly, windy day but everyone seemed to have fun while learning.

Forest Fire site near Hythe - (forestry)

Unfortunately we could not fit this field trip in between the teams, the judges and the presenters schedules. To compensate for this the main focus of the simulation was geared toward forestry and fire prevention. Adam addressed the issues facing the teams and we gave the students extensive notes, videos and examples of parks that had chosen various methods of forest fire prevention. We also gave them contact names of people if they chose to gather more information for their simulation presentation. (2 of the 3 teams used this contact information).

Recommendations: The field trips were once again a highlight of Envirothon. The trips were scheduled on various days of the week and once a week for four weeks. This proved to be a good schedule overall. We did not foresee a busy forest fire schedule for the fall. Oops! Worsley completed all three field trips in one day. In next year's agenda I will send the field trip schedule out of planned field trips well in advance. This year the original schedule stated one field trip a week but I waited to consult with the teams on which days were best before booking the trip. This created a few last minute scheduling problems. Next year I will book the trips in advance and then if several people from one team can't make it I will try to re-schedule it. Having the entire last week void of field trips was appreciated by the teams as they were spending all their free time working on the simulation. It paid off as the presentations were fabulous.

Envirothon Competition

Written Test:

On Tuesday October 26th the teams completed the written exam for Envirothon Alberta. Based on rules from other provinces, students were allowed to write as a team. This allowed team members to specialize in certain areas if they chose to do so, however most became knowledgeable in all four areas of study. Each segment of the test was out of 25 marks. All four segments were added for a possible total of 100 marks. The team with the highest mark earned 30 points, the second place team 20 points and the third place team 10 points. A scoring sheet for Envirothon was given to the students at the beginning of the competition. This was an improvement over last year as students felt more comfortable knowing exactly how they would be scored.

Last year I had to prepare the written test at the last minute as commitments from the Alberta Forestry Association fell through. This year when I or Andrea approached people to be judges or presenters we also included the task of writing questions for the written test as part of their commitment. Everyone agreed that this would provide the best written test as it was geared to the area of study, the field studies and field guides and it would be written by the chosen expert in that field. This proved to be a wonderful decision. The questions were well thought out and tested the students knowledge at an appropriate level. I was able to pre-view the questions in advance and offer advice based on my teaching background. The presenters appreciated my advice and made minor adjustments to clarify questions. At the request of the judges I reviewed each written test before it was officially assigned a mark.

Recommendations:

Having local judges and presenters provide input on the study binders and written test was a huge asset to our competition. I would continue this practice in future years. Having hosted the event for two years, I feel next year's binder will provide a nice balance of general information relating to the four areas of study with specific information relating to issues in the Peace Region. I am already working on next year's study guides while ideas are fresh in my mind.

Eco-stations:
The three eco-stations were as follows:
#1 Wildlife Ungulates
Adam and Andrea provided antler samples, slides and various other identifying items of different ungulates in Alberta. Students had to determine which was which. They also had to discuss population trends ex. 'If the wolf population increased what would happen to the caribou or deer population and why?' Students had to identify different skulls and explain their characteristics and how these helped the animal survive. They were also asked questions on methods of sampling ungulates and were given specific situations where they would have to choose the best method and explain why.

#2 Soil Testing
There were two portions to this stations. Students were given a map of a farmers field that Mike had drawn on the chalk board. The field had various contours, soil types, wind breaks etc. Teams had to determine where best to plant and why, how to protect the crop, what needed to be done to ensure proper water retention and drainage etc. Students had to justify why they were making their choices. In the second portion of this station teams had to do a proper soil test, explain what they were doing, what to avoid (ex. contamination), and how to ensure and an adequate test (ex. send it to the lab as quickly as possible, keep it out of direct sunlight etc.) Teams were also given various soil conditions and asked a) what could grow on that soil and b) what could be done to improve the nutrients in that soil (at least 2 options were required).

#3 Water Lab
Susanne Kuechle had the students perform three water tests requiring proper techniques and conclusions. Students compared water from three stages of treatment (raw river water, ½ treated water and potable water). They were asked to discuss their conclusion and explain the processes of how the water was treated to go from the river to our kitchen table.

The eco-systems were extremely well run by the judges. We allowed 20 minutes at each station with 5 minutes between stations. I appreciated the judges enthusiasm and hard work. I also appreciated the seriousness of the students and how eager they were to do well at each station.

Conclusion and Recommendation:
The eco-stations ran smoothly and were well received by the teams. The teams and judges seemed to prefer having the stations set up in the school only a classroom or two apart as opposed to various sites in the city up to 15 minute drives apart. This was also much easier to monitor time and rotation. Judges felt it wasn't too much extra work to bring all the test equipment into the classrooms then it was to have it on site. This also saved a lot of time as travel was not necessary. Last year's recommendation was to include pre-testing at this year's event. This ensured judges met time lines. By reviewing each eco-station before the competition we were able to determine that everything being tested had been covered in the field studies or the field guides. Both these recommendations were implemented this year and worked extremely well. The only recommendation I have for next year is to perhaps have a horn or whistle to

announce time. This would save me running up and down the hallways of the school and would ensure even more accurate timing at the stations.

Boreal Forest Simulation- Envirothon National Park:
After a 20 minute break to make the draw for the order of presentations and to enjoy a quick juice drink the teams gathered in the school library . The attached sheet is a copy of the simulation. I have also included a score sheet the judges used for the presentation. This score sheet was based on Envirothon expectations at the national level. I changed a few sections in order to relate it to our situation but overall it is the national standard expected of the participants. Students were given the score sheet ahead of time so they knew how they were being graded.

Last year the students were given the simulation on the day of the competition. They then had two hours to come up with their solutions. This year we gave the simulation to the teams 6 days in advance and looked for a more detailed presentation. The judges agreed the level of presentations rose considerably and students showed a great deal of dedication in getting information to support their presentation. I recommend we give the simulation out no more than one week in advance of the competition. This allows some pressure that teams will have to deal with as well as it provides a great opportunity for team work in order to come up with the best presentation in a relatively short period of time. The other advantage of having the teams prepared prior to the event was it proved very difficult for teams to change their answers or presentation based on what they heard from other teams. All three had different solutions and none were wrong as long as they were supported with factual choices.

Conclusions and Recommendations:
The presentations impressed all the judges, the parents watching, the sponsor teachers and the media in attendance. The preparation the three teams put into it was incredible! Each team took a different approach but were equally creative and committed. Teams were given 15 minutes to plead their case. They were given a two minute warning as they would have been penalized for going over time. All teams completed their presentations within the 14 -15 minutes time frame thus not receiving any penalties. The judges then had five minutes to ask questions or ask for clarification. Teams were judged not only on their presentation but how well they answered the judges questions.

Worsley Central: One team dressed in matching dress shirts and ran the simulation as a town hall meeting with each team member acting as a concerned citizen in various areas ex: industry, environmentalists, boaters, naturalists etc. The mediator Cara Kozack a grade 11 student ran the meeting as if she had been doing this all her life. She allowed for differences of opinions but never allowed the 'actors' to get out of hand. Conclusions were reached in logical manners and based on fact.

St Joseph Catholic School - The Planateers: This team took on characteristics of different elements in the park (wind, sun, soil, water and fire). The presentation was made from the elements point of view.

St Joseph Catholic School - The Enviro Radicals: This team were dressed in suites and dresses. They were the 'who's who' of Marms Island National Park. Each member had a different task in educating the public. This team even created a web site, an information booklet and a point cast presentation on wildlife in their park.

Conclusion and Recommendation:
The simulation/presentation was a huge success (even better than last year). Team members really worked well together. In our recommendations last year we stated it was important giving the teams information on how they would be graded prior to the simulation. This worked out very well. Teams could steer their presentations in the right area. It also made the participants feel more in control and less puzzled if they didn't do as well as another team. We will continue to provide the scoring sheet one week prior to the simulation.

Team Results:
Scoring was as follows:
written test and eco-stations - 1st = 30 points, 2nd = 20 points, 3rd = 10 points
simulation/presentation - The presentation was marked out of 60. Teams were awarded their mark out of 60.
The final score was out of 180.

	Planateers St Joseph #1	**Enviro Radicals St Joseph #2**	**Worsley Central**
written test	30	20	10
Eco-stations			
wildlife	30	10	20
soils	10	20	30
water	30	20	10
Presentations out of 60	52	44	48
Total	152	114	118

Envirothon Simulation

The following simulation is designed to incorporate your knowledge in all the areas studied in Envirothon (forestry, wildlife, soils and water).

These four areas of study interact with one another. It is your goal to find the right balance for your team and to justify your stance. Remember, there is no right answer just apply what you learned.

Your team will be given 15 minutes maximum to make your presentation. The judges will then have 5 minutes to ask you questions related to your presentation.

This is a team presentation and it is expected each member of your team will take part in the planning and presentation of your material.

Envirothon National Park

The Federal Government has just declared Envirothon Alberta as a National Park. Your team has been given the task of managing this park. The park totals 300,000 hectares of forest ecosystem in northern Alberta (approximately the size of 32 townships or 1/3 of the county of Grande Prairie)

Park Facts and information to think about:

- The goals of the National Park are :Preservation, Outdoor recreation, Education, and Tourism
- The park is bordered on the east and west side with agriculture.
- There are currently three well sites in the park. The well sites are approximately 100 m by 100 m in size. Each site generates approximately $2000 / year and all three leases expire in 10 years.
- There is a pulp mill bordering on the north side of the park and the river that runs through the park is downstream from the mill. The mill employs 1/3 of the city that also borders the park on the north (the city has a population of 15,000). This mill is known to be a very good corporate citizen.
- The park has a small townsite of 400 people living in it, most of these people work in the park (tourism) while others work at the mill
- The park has five lakes scattered throughout it which are quality lakes for Trumpeter Swan nesting (a threatened species in Alberta). Each water body in the park has an inlet and outlet and they all drain into the same river system.
- You have woodland caribou, moose, elk, and wolves inhabiting the park.
- There is a 200-site campground in the park, day use area with shelters, a hiking trail, showerhouse, and an amphitheatre. The Park is well visited with 75,000 visitors per year and it is one of the only Parks in the north for the public's enjoyment. The Park generates approximately $100,000 in revenue of which goes back into the park for maintenance, building upkeep, firewood purchase etc.

Management Issues to Address:

- As Park Managers you must decide if you will continue the oil and gas lease (well sites) in the Park or discontinue their lease possibly facing a legal battle or a lot of money for compensation as the company has 10 more years on their lease. If you continue the lease to term you then have 2 options. One, you can renew it and continue the lucrative revenue for the Park. Or two, you can terminate the lease and decide not to have oil and gas activity in the Park, possibly risking a large corporate supporter of the park. Justify your decision.

- As the pulp mill is upstream from the park, how would you ensure a healthy watershed through the park not just from an industry point of view but also from a recreation perspective? You must decide how many lakes will be used for recreation (if any) and what type of recreation would be permitted (power boating, fishing, canoeing, etc.) Will any of the lakes be restricted to human use, providing pristine wetlands for staging and nesting habitat? Remember to explain your standpoint (re: focus on preservation, outdoor recreation, tourism or a balance of each?).

- As Park Managers you must decide what your mandate on fires in the park will be. Basically, there are 3 options or scenarios you can choose: 1 Initiate prescribed burns, 2 Suppress all fires or 3 no management (let fires occur if they may). $50,000 per year has been earmarked for fire management in your park. Your options are:
  - To hire a fire control individual ($30,000 per year) who will monitor the fuel build-up in the park and will initiate prescribed burns at a cost of $4000 each. These burns provide excellent moose and elk habitat however too much fire will destroy prime caribou habitat.
  - If you suppressing burns you will need to hire an individual to be in a lookout tower at $20,000 per year (which includes the cost of tower equipment) and on average spending of $10-20,000 for fire fighting per year.
  - If you decide not to manage fires you will need to reserve money if a large fire should occur in the future (as you learned with the Yellowstone scenario) this could be from $150,000 and up.
  - Explain your decision

- There are 2 main wildlife issues that you are concerned about. Firstly, woodland caribou are migrating in and out of the park for the summer and winter ranges. You as a park manager are concerned about how the logging outside of the park for the mill is effecting the caribou population. How will you find out if their numbers are decreasing as a result of logging?

- The second management issue is that the local farmers are concerned that there may be an increase in moose and elk in the park and these animals are leaving the park boundaries and eating their hay stocks. How will you determine if the numbers are truly increasing? Remember to also take into consideration your decision of fire management in the park.

- For the above two scenarios, describe one possible outcome of your population studies and indicate what your management actions would be given your results.

- As education is part of your Park mandate, consider 1 park issue that you would like to educate the public on. This message could be delivered to campers and day users that visit the park or as an extension program to those living outside the park borders. Why did you choose this issue?

Envirothon Oral Presentation
Based on Simulation
Judging Criteria

Section A: Content	**Scoring**
Team demonstrated a solid understanding of social issues related to the simulation or demonstrated a solid understanding of management and consideration and implications of the problems.	5 4 3 2 1
Team presented at least one viable option to the simulation addressing all issues.	5 4 3 2 1
Main parts were clearly stated and supported. Conclusions were clearly defined and convincing.	5 4 3 2 1
Solution(s) in the presentation have potential to be applied in real life.	5 4 3 2 1
Solutions considered all affected groups in presenting the issues.	5 4 3 2 1
Section Score	**/25**
Section B: Presentation	
Presentation was well organized with a clear introduction and strong conclusion. Main sections were easily identifiable.	5 4 3 2 1
Participants enhanced the presentation (eye contact, gestures, voice inflection, originality etc.)	5 4 3 2 1
Visual aids were used to make major points and show conclusion. (possibilities include a map, overhead or a poster)	5 4 3 2 1
Questions were answered logically and concisely by all team members.	5 4 3 2 1
Section Score	/20
Section C: Time Management	
Add up to 10 points for team member participants in presentation. (Each member gets up to 2 points for participation in presentation)	10 8 6 4 2

Add up to 5 points if presentation was accomplished in the allotted time scale and the team made effective use of their time. **13- 15 minutes** 5 **11.5 -13 min*** 4 **10 - 11.5 min** 3 **8.5 - 10 min** 2 **Below 8.5 min** 1 ***teams will be cut off at 15 minutes, they will be given a 2 min. warning when it's 13 minutes.**	
Section Score	/15
Section D Judges comments and total score	

Awards:
Certificates of Recognition - presented to each student and each judge
Annual Trophy to be passed on each year
$200.00 money order / each member of the winning team
$100.00 money order / each member of the 2nd place team
$ 50.00 money order / each member of the 3rd place team

Each participant received the cash award accompanied by a letter stating the money is to be used for further educational pursuits or is to be invested in GIC's, RRSP's or Canada Savings Bonds.

We improved the prize break down this year offering financial awards to all three teams. We were able to do this by saving money in other areas (ex. rental of the hall for the event). This was a positive step as all the teams worked tremendously hard and were rewarded for their efforts.

These prizes are in line with other provincial and regional Envirothon competitions. The National Envirothon offers a $1,500/team member to the winning team.

Meals and Rental Site:
We had two main meals. The first lunch was for the Worsley team on the day they traveled more than two hours for their field trips. We had to create a tight time schedule in order to fit all three field studies in. We offered submarine sandwiches, juice and cookies to them for lunch during the wildlife presentation.

The main meal we provided was dinner to all the participants, judges and sponsor teachers on the evening of Envirothon. After surveying the students we opted for Chinese food. This meal turned out to be approximately $2.00/person less expensive than last year's dinner. It was delicious too - yum yum!

We saved a considerable amount of money by using St Joseph Catholic school as our Envirothon Test site as opposed to renting a venue. Thank you St Joe's. This allowed us to spend more money on the prizes for the 2nd and 3rd place teams.

Conclusion and Recommendations:
The school setting for Envirothon proved to be positive. Students from all teams felt comfortable in the classrooms and library, we had easy access to audio visual equipment and by keeping the event more close range we had more time for the presentations. I recommend we ask a school to host the event each year.

Envirothon T-Shirts:
I ordered t-shirts through a local Grande Prairie Company named "Print-A-Memory". The shirts were well received by all participants. They looked great and the cost was reasonable.

Media Coverage:
We had great media coverage of this year's event.
Radio: Shannon Morrow of CJXX radio interviewed team members and broadcasted a couple of great stories.
Newspaper - The Daily Herald Tribune reporter Scott Seymour followed the teams through the eco-stations and interviewed participants (see attached story).
Television - Both CFRN and Northern Productions covered the event. The stories were well done and showed a variety of the activities involved in Envirothon. A lot of people saw the story on CFRN as we received great feedback and inquiries about Envirothon.

Summary

Envirothon Alberta was once again a very positive event for all involved. Every participant whether it be students, teachers, committee members or judges would like to see future Envirothon Alberta's.

What a tremendous experience for bright young citizens of our community to explore the area they live in and realize they can make a difference in the future of Grande Prairie and Area. Based on their experience from the event one team has organized an Environmental group in their school and began an re-cycling program. The group plans to meet once a month and bring in guest speakers to talk about local environmental issues and how they are being dealt with and how youth can get invovled.

I recommend we continue with Envirothon Alberta. There are some details to be worked out to make future Envirothon's that much better, but overall it was an extremely positive experience. I have spoken with principals, superintendents and teachers on how to get more teams involved for next year. We will begin working on Envirothon 2000 in January. I would like to see Alberta Forestry Association push to get Envirothon Alberta in other communities so we can truly make this a provincial event. Envirothon 2000 will be offered to Peace Country schools from Manning to Grande Prairie, east to Ridgevalley and west to Beaverlodge and all schools in between. It may prove challenging to work out field studies for teams in different areas but having now two Envirothon's under our belt I know we will be able to work out the details.

I was once again proud to be involved in this event and thrilled to meet so many terrific high school students.

I look forward to working on future Envirothon's.

Team Members

Overall Results:

1. St Joseph Catholic High School
   The Planateers
   154/180

Team Members

Terri-Lynn Duffy	Gr 11
Pam Syrota	Gr 12
Nicole Thibault	Gr 12
Katherine Shepherd	Gr 12
Tara-Jean Holinaty	Gr 11

Stacey Dunnigan - Sponsor teacher

2. Worsley Central School
   118/180

Cara Kozack	Gr 11
Samantha Cartwright	Gr 11
Sandy Parliament	Gr 11
Amber Wright	Gr 11
Jody Dous	Gr 11

Jill Richer - sponsor teacher
Debbie Carlstrom - sponsor parent

3. St Joseph Catholic School
   The Enviro Radicals

Royce Vavrek	Gr 11
Mitchell Beauchamp	Gr 11
Miranda Lane	Gr 10
Sara Cooper	Gr 12
Angela LeBlanc	Gr 11

Bruce Relland - sponsor teacher

Comments:
All three teams competed well. The presentations were well thought out and presented. The students were extremely positive and creative throughout the six week event. It is wonderful working with such vibrant young Canadians.

Comments from Students:
" I learned there's a lot more work to be done than we can do alone, but if we do get more people involved, then it can help our environment." Nicole Thibault - St Joseph Planateers

"Obviously the monetary award was an incentive but more than that it was a chance for us to see and do things in our community related to the environment. As high school students we don't usually get offered these opportunities. It was a lot of fun" Cara Kozack Worsley Central

"It was a great experience! Royce Vavrek - St Joseph's Enviro Radicals.

Comments from Teachers and Presenters:
" I think Envirothon is TOTALLY worth the effort at the high school level. I know that our students loved it! (Even those who lost). We are very excited to promote Envirothon in the years to come as well as in the next 8 months while we prepare to go to Nationals. With a little advertising and positive rumors about this year, hopefully next year will be bigger and better."
Stacey Dunnigan - St Joseph Catholic School

" The girls had fun and learned a lot, and I'm really appreciative that they could have this opportunity."
Jill Richer - Worsley Central

"It was a pleasure working with these students! They were motivated and asked excellent questions! We look forward to next year's Envirothon."
Guy Wilson - Weyerhaeuser Canada

Envirothon Alberta Local Organizing Committee

Val Martineau	Forest Educator for the Forest Capital of Canada Society Chairman of Alberta Envirothon Organizing Committee
Andrea Barnes	Visitors Information Officer - Saskatoon Island Provincial Park Alberta Environment - Natural Resources Service Co- Chairman of Alberta Envirothon Organizing Committee
Adam James	Wildlife Biologist - Alberta Environment Natural Resources Services
Mike Muellller	Area Manager - Agricore Wanham Alberta
Susanne Kuechle	Coordinator Peace Country Science and Technology Hotline PhD. Genetics (marine mammals)
Guy Wilson	Weyerhaeuser, Canada - Site Environmental Leader
Bob Yates	Lands and Forest Services

Financial Statement

The following is a list of expenses incurred to complete Envirothon Alberta. The Forest Capital of Canada accountant Barry Banks has all the receipts. They can be accessed at any time.

Salaries and Wages Val took this on as part of her job as Forest Educator for the Forest Capital of Canada Society. The society covered her salary and wages (2 months). The gift in kind for salary and wages was approximately $6,000. All judges were volunteers.

Materials and Supplies

Courier service of package to Worsley Central via Loomis	$ 13.94
Courier service of tests to Worsley Central via Loomis	$ 13.96
Film for Envirothon field trips	$ 7.44
Print-A-Memory (Envirothon T-Shirts)	$398.04
Bristol Board for signs and note pads for judges	$ 23. 05
Film for Envirothon competition day	$ 24.39
Development of film	$ 26.48
	$507.30

Gift in Kind

water bottles with Envirothon logo supplied by Weyerhaeuser	0
Award Certificates created and printed by Canfor	0
pins to participants - Ainsworth	0

Awards

Engraving of trophy	$ 29.91
Prize money (5 x $200.00, 5 x $100.00, 5 x $50.00)	$1750.00
Gift to Co-Chair of Organizing Committee	$ 50.00
Gifts (3) to Sponsor teachers	$ 38.47
Frames for award certificates	$ 35.05
	$1903.43

Travel, Accommodation and Meals

Juice for lunch for Worsley team during all day presentations	$ 13.69
Rental of Wapiti Nordic Ski Lodge for field study presentation	$ 80.25
Dinner for Envirothon Event	$ 202.21
Juice for Competition Day	$ 21.09
Tim Hortons - Tim Bits for field study at Sask. Island Prov. Park	$ 4.50
Subway Sandwiches and cookies - Lunch for Worsley team (field studies)	$ 51.76
Mileage - field study Saskatoon Island Province Park	$ 14.96
	$ 388.46

Total Cash Costs for Alberta Envirothon 1999 = $ 2,799.19

Cash Costs for Alberta Envirothon 1999	$2,799.19
Grant provided by MDFP Research Trust Fund	$ 2,000.00
Money provided by FCOCS - education committee	$ 799.19
Gift in Kind provided by FCOCS (Val's salary)	$ 6,000.00
Gift in Kind provided by Canfor - certificates	$ 150.00
Gift in Kind provided by Weyerhaeuser - water bottles	$ 153.00
Man power provided by three companies =	40 hours (unsure of wages)

Envirothon Alberta Costs = $9,102.19 plus 40 hours of wages for forest company employees.

DHT Thurs Oct 28/99

Staff photo by Scott Seymour

Alberta Environmental Protection officer Andrea Barnes (second from left) points out some clues to the St. Joseph High School Planeteers team during the wildlife workshop at Wednesday's Envirothon.

St. Joe's team comes up the winner in Envirothon

Team of five students earns right to compete at national event

SCOTT SEYMOUR
Herald-Tribune staff

Three teams of biology whiz kids faced off at a city high school Wednesday for the chance to represent Alberta at a national science competition in Nova Scotia next summer.

St. Joseph high school was the venue for the final round of Envirothon Alberta 1999, the provincial portion of a national competition designed to test and develop knowledge of environmental issues.

Each team was made up of five students from Grades 10-12.

Two of the teams — the Planeteers and the Enviro Radicals — were from the host school, and the other from Worsley Central high

"I learned there's a lot more work to be done than we can do alone, but if we do get more people involved, then it can help our environment a lot."

— 17-year-old Nicole Thibault of the Planeteers

easy to tag, but the others, well...

"We were kind of lost and it ended up we didn't get any of them," chuckled Dous, 15.

In the last part of the competition, the teams made a 15-minute presentation on how they would manage a national park from top to bottom. Issues included forest and wildlife management, industrial encroachment, education and budgeting.

Planeteer Nicole Thibault, 17, the Planeteers came out on top with Worsley finishing second and the Enviro Radicals third.

Each member of the Planeteers received $200 to go towards future education.

Students from the second- and third-place teams received $100 and $50 each, respectively.

The Planeteers also qualify to represent Alberta at the National Envirothon in Nova Scotia next July.

* each column is continued on the next page

school.

Envirothon actually began about six weeks ago when teams were assigned reading projects and taken on field trips relating to the competition's four topics — wildlife, forestry, soils and water.

On Tuesday, the teams wrote a 25-question test based on the subjects and then proceeded to the two-part final round at St. Joe's.

The teams spent 15 minutes answering questions and performing experiments in each of the labs on wildlife, soil and water. They were graded based on their answers and their techniques.

For example, in the wildlife lab, they had to identify which antlers belonged to which species of animal.

In the water lab, students were given water samples from the Wapiti River near Weyerhaeuser Canada, [illegible] water, and [illegible] and asked to account for the differences in acidity level.

"We tried to incorporate local issues wherever we could," said Val Martineau, chairwoman of Envirothon's organizing committee.

"That actually made the competition more interesting," said Enviro Radical member Miranda Lane, 16, who liked the wildlife lab the best.

"It was interesting because it strikes close to home. You see those (animals) almost every day and you never really think about it."

Worsley team member Jody Douis said the wildlife lab's bonus question was tricky, however.

Students were shown three skulls — from a bear, a wolf and coyote — and asked to identify which was which. The smaller coyote skull was said the project opened her eyes.

"I learned there's a lot more work to be done than we can do alone, but if we do get more people involved, then it can help our environment a lot."

When the points were added up, The three schools were the only ones to enter. Grande Prairie obtained the right to host the provincial competition as a spinoff from its 1997 Forest Capital of Canada activities. St. Joe's hosted the inaugural Envirothon two years ago.